

Management, guidance, and flight control of unmanned aircraft for autonomous, semi-automatic, and assisted missions



MARKET NEED



- Control system designed to meet the size, weight, power, and cost (SWaP-C) requirements of aerospace technology, while ensuring high reliability
- Adaptability to multiple UAV systems.

CONTACT

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STAGE OF DEVELOPEMENT

- Patented technology. Validated and demonstrated in flight.
- Seeking collaboration to increase TRL and subsequent transfer.

INTA UNMANNED AIRCRAFT CONTROL SYSTEM (SICANT)

The SICANT Flight Control System is a platform for the guidance and control of unmanned aircraft, developed by the Flight Mechanics Area of the Spanish National Institute for Aerospace Technology (INTA).

Over more than twenty years, SICANT has evolved to improve its reliability, flexibility, and technological sovereignty, adapting to technological advances and the needs of the RPAS sector in Spain.

SICANT enables high-precision and safe automatic take-off and landing (ATOL), as well as the generation and execution of flight plans—including contingencies—that can be modified in real time. It supports multiple flight modes (automatic, semi-automatic, and manual) and includes envelope protection to prevent unsafe conditions.

The hardware features a compact, modular architecture adaptable to different platforms. It includes communication capabilities and supports the handling of analog, digital, and PWM signals.

ADVANTAGES



- Product fully developed by INTA and adaptable to customer requirements.
- It features a robust control system with hardware and analytical redundancy, capable of fault detection and isolation. It enables precise trajectory guidance, configurable maneuvers, and cooperative Multi-RPAS operations.
- The system includes HWIL simulators for software and procedure validation.
- Both hardware and software have a modular, scalable architecture designed to meet DO-254 and DO-178C certification standards.

